



October 17, 2005

California Energy Commission
1516 Ninth Street, MS-25
Sacramento, CA 95814-5512
Attn: Commissioners of the CEC

Ref: Petition to the Commission per Section 1221
Appliance Efficiency Regulations

Dear Commissioners,

I have read the Proposed Amendments to the Appliance Efficiency Regulations and I have a concern about the requirements for Walk-In refrigerators and freezers specified in section 1605.3(4) and Table A-6. I am concerned about the printed specifications and those not clearly specified.

ITEM OF CONCERN NUMBER 1 – DOOR HARDWARE:

Table A-6 specifies “automatic door closers on all doors no wider than four feet or higher than seven foot, that firmly close walk-in doors that have been closed within one inch of full closure”.

ITEM NUMBER 1 - DISCUSSION:

Swing doors are manufactured in three very different styles: 1) FLUSH DOORS – these doors are typically used in the food service industry and are designed with the outside face flush with the face of the wall, 2) INSET DOORS – these doors are typically used in the retail food industry and are designed to partially lap over the face of the wall, 3) LO-TEMP OVERLAP DOORS – these doors are typically used in the food processing industry and are designed to completely overlap the face of the wall. There are also SLIDING DOORS, VERTICAL LIFT DOORS and OVERHEAD DOORS – these doors are typically used in cold storage and “big box” applications.

This specification addresses high traffic doors that are opened and closed several times a day and very likely to be left unlatched. This type of door is typically three feet wide and six feet and six inches high and is very common in the food service industry. It is a standard in restaurants and the deli and bakery areas of a supermarket where constant access to small food items is the norm.

Doors used on storage walk-ins are not opened and closed nearly as often. These walk-ins are used to store bulk items in larger containers and are not subjected to continuous access. This type of door is typically four feet wide and seven feet high and larger and is very common in the retail food industry.

Automatic door closers are designed to work on smaller personnel type doors that have latches without a strike and roller. The type of latch used on flush doors does not present any resistance when the door is within one inch of full closure and will allow a standard closer to pull the door fully closed. At present, this type of latch is only available on flush doors. The flush hardware will not work on an inset door. The retail food industry uses larger heavier inset doors with heavy duty positive latches. An inset style four foot wide and seven foot high door is typical in retail food applications. Currently the flush style latches are not available for inset doors.

ITEM NUMBER 1 - COMMISSION ACTION REQUESTED:

A review of Table A-6 is requested. The maximum door size at which an automatic closer is required should be changed to dimensions less than four feet wide and less than seven feet high. This specification should apply to those doors typical in high traffic food service applications, i.e. doors no wider than three feet and six inches wide and no higher than six feet and six inches high. This minimal change would still require smaller high traffic doors to be self closing and allow a four foot wide by seven foot high storage walk-in door to have a positive latch. Also, the refrigeration systems used on the larger storage walk-ins are likely to produce more pressure and would require a positive latch to keep the door closed.

ITEM OF CONCERN NUMBER 2 – DOOR R-VALUES:

Although it is not specifically stated, it was made quite clear by Michael Martin of your office; the minimum R-value requirement applies to “envelope insulation” including doors and floors.

ITEM NUMBER 2 DISCUSSION:

Some panel manufactures do not supply any doors, some build their own doors, some purchase them and some manufactures build them with a purchased perimeter edge. The application is the same as the door type breakdown mentioned above in Item 1. Flush doors are typically manufactured with a purchased perimeter edge. Inset doors and lo-temp overlap doors are factory built or purchased. Sliders, vertical lift and overhead are purchased. The standard high traffic food service door is manufactured using an extruded perimeter edge. Almost all manufactures have a proprietary die used exclusively by them for the extruded perimeter edge. All of these doors are currently manufactured in a thickness based on this extrusion which results in an R-value less than the specified R-value for freezers. The cost for each die is approximately \$40,000.00. The process of creating a new die takes three months or longer depending on the complexity. This is a huge cost to absorb for any manufacture.

ITEM NUMBER 2 - COMMISSION ACTION REQUESTED:

A review of Table A-6 is requested. The required door R-value should be clearly stated and the effective date should be postponed until January 1, 2008 to allow manufactures time to create new die designs and enough time to appropriate monies and absorb the cost.

ITEM OF CONCERN NUMBER 3 – FLOOR R-VALUES:

Although it is not specifically stated, it was made quite clear by Michael Martin of your office; the minimum R-value requirement applies to “envelope insulation” including doors and floors.

ITEM NUMBER 3 DISCUSSION:

While some walk-in refrigerators will have floor panels and some will have an insulated slab, most will only have insulated walls and tops. The slab on grade in a refrigerator is almost never insulated. Refrigerators located on upper levels of a building will have insulated slabs or floor panels since the floor ambient at upper levels would be equal to or worse than room ambient. All freezer floors will be insulated using floor panels or an insulated slab. The required R-values are calculated using the difference between the refrigerator or freezer temperature and surrounding ambient temperature. The required envelope insulation minimum R-values stated in Table A-6 are based on room ambient and do not consider a difference for ground ambient.

Currently the temperature difference between a walk-in refrigerator and ground ambient is so low it does not require insulation. The current requirements in Table A-6 would require an insulated slab or insulated floor panels in all refrigerators. Since most refrigerated projects include four refrigerators for every freezer, the added requirement for insulated floors in refrigerators is a very costly addition.

The temperature difference between a walk-in freezer and ground ambient is significant, however it is not enough to require the minimum R-36 stated in Table A-6. An R-28 freezer floor is adequate for a ninety degree temperature difference. R-28 would work on a minus thirty degree freezer floor.

Remodels and expansions are also part of many refrigerated projects. Will the new panel portion of remodels and expansions be required to meet the new standard creating an offset in wall, ceiling and floor thickness? The offset in walls and ceilings is typical in current designs; however the offset in the floor panel would create an additional hazard.

ITEM NUMBER 3 - COMMISSION ACTION REQUESTED:

A review of Table A-6 is requested. A separation in R-value requirements for wall/ceiling insulation and floor insulation should be added. Also some mention of the requirements for remodel and expansion of existing projects.

I believe these items to be in agreement with the goals of the Commission and relevant to the concerns of panel manufactures and ultimately the end user and energy usage concerns. I appreciate the opportunity to present this information and look forward to further discussions. Thank you in advance for your assistance in these matters.

Sincerely,

Fred L. Minelli
Vice President-Engineering